An extension of time to respond to the Office Action is respectfully requested. A Petition for Extension of Time for one month and the appropriate fee are being filed concurrently with this Amendment.

Please amend the above-identified Application as follows:

IN THE CLAIMS

Please cancel claim 33.

1. (Amended) A method for dynamically adjusting reserved bandwidth in a data communications device while transporting a session of data communication within the device, the method comprising the steps of:

establishing a first bandwidth reservation associated with a session of data communication in the data communications device;

transporting, through the data communication device, application data associated with the session of data communication utilizing data storage locations associated with the first bandwidth reservation;

receiving bandwidth allocation adjustment information, within a bandwidth reservation request, during the session of data communication; and

dynamically adjusting the first bandwidth reservation to produce a second bandwidth reservation for application data of the session of data communication in accordance with the bandwidth allocation adjustment information within the bandwidth reservation request while continually maintaining the session of data communication.

2. (Amended) The method of claim 1 wherein the step of establishing a first bandwidth reservation includes the steps of:

accepting a first bandwidth reservation request indicating a first amount of bandwidth to reserve for the session of data communication in the data communications device; and

labeling, with an identity of the session of data communication, a first percentage of available data storage locations used to store application data transported through the data communications device thus establishing the first bandwidth reservation, wherein the first percentage of storage locations labeled is based upon the first amount of bandwidth requested as indicated in the first bandwidth reservation request.

9. (Amended) The method of claim 1 wherein the step of dynamically adjusting the first bandwidth reservation to produce a second bandwidth reservation includes the steps of:

accepting a bandwidth reservation request indicating a specific amount of bandwidth to reserve for the session of data communication;

calculating and storing a percentage of total device bandwidth to allocate to the session of data communication based upon the bandwidth reservation request; and

labeling, with an identity of the session of data communication, a percentage of available data communication device data storage locations used to store application data transported through the data communications device, wherein the percentage labeled is based upon the calculated percentage of total device bandwidth to allocate to the session of data communication.

14. (Amended) A method for dynamically reserving bandwidth in a data communications device comprising the steps of:

accepting a first bandwidth reservation request indicating a first amount of bandwidth to reserve for a session of data communication in the data communications device; and

labeling, with an identity of the session of data communication, a percentage of available data storage locations used to store application data transported through the data communications device to establish a first bandwidth reservation, wherein the percentage of storage locations labeled is based upon the first amount of bandwidth requested as indicated in the first bandwidth reservation request.

15. (Amended) The method of claim 14, further comprising the steps of:

accepting a second bandwidth reservation request indicating a second amount of bandwidth to reserve for the session of data communication;

labeling, with an identity of the session of data communication, a second percentage of available data storage locations used to store application data transported through the data communications device thus establishing a second bandwidth reservation which replaces the first bandwidth reservation associated with the session of data communications, wherein the second percentage of storage locations labeled is based upon the second amount of bandwidth requested as indicated in the second bandwidth reservation request; and

wherein the second percentage of storage locations labeled is different than the first percentage of storage locations labeled.

18. (Amended) The method of claim 14 wherein the step of labeling labels the data storage locations with more than one identity of more than one session of data communication.

19. (Amended) The method of claim 14 wherein the step of labeling labels the data storage locations with preemptable labels that indicate that the storage location can be used for storing data other than application data associated with the session of data communication for which the storage location is labeled.

20. (Amended) A method for separately handling bandwidth reservation processing in a data communications device from data transport processing, the method comprising the steps of:

processing requests to reserve bandwidth for a session of data communications and labeling a percentage of available data storage locations that store application data in the data communications device with a session identifier; and,

concurrently processing and transporting application data through the data communications device using the available data storage locations to store the application data as it is processed, and depositing only application data having a corresponding

identifier equivalent to the session identifier of the storage locations into the data storage locations labeled with the session identifier.

22. (Amended) A method for storing bandwidth reservation information, the method comprising the steps of:

accepting a bandwidth reservation request containing bandwidth allocation adjustment information indicating an amount of bandwidth to reserve for transport of application data associated with a session of data communication;

calculating a percentage of total device bandwidth to allocate to the session of data communication based upon the bandwidth allocation adjustment information contained within the bandwidth reservation request; and

storing the percentage in a resource allocation table which is independently accessible by a flow labeler.

23. (Amended) A data communications device capable of dynamically adjusting reserved bandwidth while maintaining a session of data communication, the device comprising:

an input for receiving application data including bandwidth reservation requests;

a data storage mechanism including data storage locations;

a bandwidth reservation processor coupled to the input port and accepting a first bandwidth reservation request indicating a first amount of bandwidth to reserve for the session of data communication in the data communications device, the bandwidth reservation processor establishing a first bandwidth reservation associated with a session of data communication in the data storage locations; and

a data scheduler coupled to the input port and coupled to the data storage mechanism, the data scheduler receiving application data associated with the session of data communication and depositing the application data associated with the session of data communication into the data storage locations associated with the first bandwidth reservation.

24. (Amended) The data communications device of claim 23 wherein the bandwidth reservation processor receives bandwidth allocation adjustment information, within a bandwidth reservation request, from the input port during the session of data communication and dynamically adjusts the first bandwidth reservation in the data storage locations to produce a second bandwidth reservation for the session of data communication in accordance with the bandwidth allocation adjustment information within the bandwidth reservation request while the data scheduler continually receives and deposits application data associated with the session of data communication into the data storage locations associated with the session of data communication.

25. (Amended) The data communications device of claim 23 wherein the bandwidth reservation processor includes:

a bandwidth request handler coupled to the input port to receive the bandwidth reservation request; and

a bandwidth labeler coupled to the bandwidth request handler and coupled to the data storage locations, the bandwidth labeler receiving bandwidth allocation information indicated in the first bandwidth reservation request and labeling, with an identity of the session of data communication, a first available percentage of the data storage locations used to store application data transported through the data communications device thus establishing the first bandwidth reservation.

27. (Amended) A system for reserving bandwidth in a data communications device comprising:

a bandwidth request handler accepting a first bandwidth reservation request indicating a first amount of bandwidth to reserve for a session of data communication in the data communications device; and

a bandwidth labeler coupled to the bandwidth request handler, the bandwidth labeler labeling, with an identity of the session of data communication, a percentage of available data storage locations used to store application data transported through the data communications device to establish a first bandwidth reservation, wherein the percentage

of storage locations labeled is based upon the first amount of bandwidth requested as indicated in the first bandwidth reservation request.

28. (Amended) A data communications device comprising:

a bandwidth reservation processor processing requests to reserve bandwidth for a session of data communications and labeling a percentage of available data storage locations in the data communications device with a session identifier; and

a data transporter concurrently processing and transporting application data through a data communications device using the available data storage locations to store application data as it is processed, the data transporter depositing only application data having a corresponding identifier equivalent to the session identifier of the storage locations into the data storage locations labeled with the session identifier.

29. (Amended) A computer program product having a computer-readable medium including computer program logic encoded thereon for allocating bandwidth in a data communications device, such that the computer program logic, when executed on at least one processing unit with the data communications device, causes the at least one processing unit to perform the steps of:

establishing a first bandwidth reservation associated with a session of data communication in the data communications device;

transporting, through the data communication device, application data associated with the session of data communication utilizing data storage locations associated with the first bandwidth reservation;

receiving bandwidth allocation adjustment information, within a bandwidth reservation request, during the session of data communication; and

dynamically adjusting the first bandwidth reservation to produce a second bandwidth reservation for the session of data communication in accordance with the bandwidth allocation adjustment information within the bandwidth reservation request while continually maintaining the session of data communication.

30. (Amended) The computer program product of claim 29 wherein the computer program logic that executes the step of establishing a first bandwidth reservation further causes the at least one processing unit to perform the steps of:

accepting a first bandwidth reservation request indicating a first amount of bandwidth to reserve for the session of data communication in the data communications device; and

labeling, with an identity of the session of data communication, a first percentage of available data storage locations used to store application data transported through the data communications device thus establishing the first bandwidth reservation, wherein the first percentage of storage locations labeled is based upon the first amount of bandwidth requested as indicated in the first bandwidth reservation request.

32. (Amended) A computer readable medium encoded with a data structure, the data structure storing bandwidth allocation information, the bandwidth allocation information including an identity of at least one session of data communication and a number representing a percentage of data storage locations to associate with the identity of the at least one session of data communication, the number indicating a number of labels to apply to data storage locations so as to reserve the data storage locations for the application data associated with the at least one session of data communication.

IN THE SPECIFICATION

Please replace the paragraph at page 5, line 29 through page 6, line 11 with the following paragraph:

One reason that current implementations of RSVP do not allow bandwidth adjustments once a communication session is in progress is not due to limitations of the RSVP protocol. Rather, the design of prior art data communications devices that support RSVP, such as show in Fig. 1, impose the limitations. A customized data classifier 104 and scheduler 106 support RSVP bandwidth reservation requests and enforce the bandwidth allocation requirements in prior art data communications devices that support

RSVP. The RSVP daemon 101 periodically updates the customized classifier 104 with filterspec information which allows the classifier 104 to properly examine and classify packets of data with the flow identification associated with the packets. If a packet is associated with a flow of data for which bandwidth has been allocated via RSVP, the customized classifier 104, for example, directs this packet to a queue reserved for this flow. Once queued, the customized scheduler 106 typically uses a weighted fair queuing algorithm to dequeue the data from the various queues according to the bandwidth allocation requirements associated with the various flows of data in relation to each queue as defined by flowspec requirements.